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NON-PROVISIONAL APPLICATION

FOR

Method and System for Providing Additional Information to an Advertisement Being Viewed

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CROSS REFERENCE TO RELATED APPLICATION

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Method and System for Providing Additional Information to an Advertisement Being Viewed

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AUTHORIZATION WITH RESPECT TO COPYRIGHTS

BACKGROUND OF THE INVENTION

Field of the Invention

The present invention generally relates to the area of television broadcasting systems and more particularly relates to methods and systems for providing additional information in a separate channel to a commercial message being viewed in a primary channel so that an advertiser of the commercial message

does not have to pay for the time of the additional information in the primary channel.

Description of the Related Art

In today's society, television may provide the most available broadcast medium that can reach almost every one in the United States through cable or air transmission. Because of the unparalleled penetration to consumers, the television and cable network is particularly advantageous to transmit a great volume of commercial information to viewers, often interlaced in or between regular television programs. Many businesses including manufacturers and retailers spend collectively billions of dollars each year to advertise their services and products on television. In practice, the more special a program is, the more expensive to insert in an advertisement. Further the more popular a television channel is, the more expensive it is to advertise thereon. For example, it is far more expensive to put on a 30-second advertisement on CNN, ABC or NBC than a 30-minute advertisement on a local channel. Therefore, many of the businesses have to shorten the advertisement when the advertisement is prepared for the major channels to cut down the cost. However, one of the side-effects for a shortened advertisement is a significantly decreased attention from the viewers and, quite often, the viewers do not even understand what is being actually advertised in a 30-second or less footage.

There is therefore a great need for solutions that permit advertisers to provide detailed advertisements to viewers of those major television channels without incurring substantially increased costs.

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DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

In the following description along with the appendix of the present invention, numerous specific details are set forth in order to provide a thorough understanding of the present invention. However, it will become obvious to those skilled in the art that the present invention may be practiced without these specific details. The description and representation herein are the common means used by those experienced or skilled in the art to most effectively convey the substance of their work to others skilled in the art. In other instances, well known methods, procedures, components, and circuitry have not been described in detail to avoid unnecessarily obscuring aspects of the present invention.

Annexed hereto is a six-page specification, entitled "Method and Apparatus for Linking Programs or Information in Different TV or Radio Broadcast Channels for Broadcasters and Advertisers", teaching and referring to the detailed design, features, use, advantages, configurations and characteristics of the system according to one embodiment of the present invention. The appendix shall be referenced and understood in conjunction with the following description of the present invention and should not be interpreted as any implied limitations, if there are any, in the present invention.

Referring now to the drawings, in which like numerals refer to like parts throughout the several views. **Figure 1** illustrates an

exemplary configuration in which the present invention may be practiced. Medium **100** represents a communication means that facilitates program transmission from program provider **102** to receiver **104** and may include, but not be limited to, air transmission, cable transmission and Internet transmission. Program provider **102** represents one of TV stations, radio stations, or computer servers coupled to medium **100** and provides broadcasting services that includes, but not be limited to news, entertainment, data information and commercial messages. Receiver **104** represents one of numerous types of receiving devices that are capable of receiving the broadcasting services from program provider **102**. One of the typical examples of receiver **104** is a modified Television. As used herein, a modified television is equipped with a memory function that stores footage of a predefined length and can be achieved by attaching a periphery to a regular TV. The periphery, as will be further described below, includes a memory to store a segment of the program being played on the TV. It is understood to those skilled in the art that emerging digital TV or a computing device (e.g. a personal computer) will have such memory internally and hence no need for such periphery.

To facilitate the description of the present invention, the description in the foregoing and following is focused on television sets and corresponding television programs that may or may not include commercial advertisement or messages. It will be evident that the description can be equally applied to radio sets and

corresponding radio programs as well as computing devices and corresponding data broadcasting services.

Referring now to **Figure 2**, there are respectively shown two TV programs being broadcast through the same medium and typically from the same program provider. It is assumed that program **202** being broadcast is on a major channel while program **204** being broadcast is on a secondary channel. Programs **202** and **204**, each include an advertisement **206** and **208** respectively. According to one aspect of the present invention, advertisement **206** and **208** belong to one advertiser and advertise the same thing, e.g. a product or a server, except advertisement **206** is brief and advertisement **208** is detailed. As the major channel charges a lot more for the same time of the advertisement that runs on the secondary channel, advertisement **206** is significantly shortened and brief while advertisement **208** is more detailed and lengthy.

It should be noted that a secondary channel does not have to provide a program that is inserted or interlaced with one or more advertisement footage. For example, the secondary channel delivers only commercial messages or data to complement other channels with more detailed information.

As is known that the major channel attracts more viewers, shortened advertisement **206** may catch an attention from the viewers but often fail to get the viewers understood what is being described in the advertisement. According to one embodiment of the present invention, advertisement **208** can be configured to be

broadcast at the same time but in a secondary channel that is provided for those viewers that get interested in advertisement **206** to turn to advertisement **208**. According to another embodiment of the present invention, a sequence of advertisements including advertisement **208** are delivered periodically and asynchronously with respect to the primary channel. In other words, the detailed versions of the advertisements are fed to the secondary channel and, preferably, stored in a local memory that can be accessed upon request.

According to one embodiment of the present invention, program **204** is configured to pass through a buffer memory in the TV. **Figure 3** illustrates such buffer memory **300** according to one embodiment. Program **204** is made to feed through memory **300**. When advertisement **208** arrives at the end of memory **300**, corresponding advertisement **206** starts to be played. When a viewer sees advertisement **206** and decides to see more of the advertisement, he/she may press a predefined key in a remote controller that activates a link embedded in program **202**, preferred in the segment that carries advertisement **206**. That link causes the content in buffer memory **300** to be played on the TV as soon as the link is activated. As a result, the viewer of the major channel gets the opportunity to view the detailed version while the advertiser does not have to pay for the detailed version that would otherwise be run on the major channel. The detailed implementation according to one embodiment is provided in the Appendix.

One of the key features in the present invention is to attract the large audience enjoyed by a major or primary channel to a corresponding detailed advertisement being broadcast on a secondary channel. In reality, not only does an advertiser benefit from the saving while enjoying the large audience from a major channel, but also the viewers benefit from a shortened advertisement run on a major channel that typically provide more entertainment or news information.

The processes, sequences or steps and features discussed above and in the appendix are related to each other and each is believed independently novel in the art. The disclosed processes and sequences may be performed alone or in any combination to provide a novel and unobvious system or a portion of a system. It should be understood that the processes and sequences in combination yield an equally independently novel combination as well, even if combined in their broadest sense; i.e. with less than the specific manner in which each of the processes or sequences has been reduced to practice in the attached appendixes.

While the embodiment discussed herein or in the appendix may appear to include some limitations as to the presentation of the advertisement, in terms of the format and arrangement, the invention has applicability well beyond such embodiment, which can be appreciated by those skilled in the art.

The forgoing and attached are illustrative of various aspects/embodiments of the present invention. The disclosure of

specific sequence/steps and the inclusion of specifics with regard to broader methods and systems are not intended to limit the scope of the invention which finds itself in the various permutations of the features disclosed and described herein as conveyed to one of skill in the art.

METHOD AND APPARATUS FOR LINKING PROGRAMS OR INFORMATION IN DIFFERENT TV OR RADIO BROADCAST CHANNELS FOR BROADCASTERS AND ADVERTISERS

FIELD OF THE INVENTION

This invention is in the area of multimedia apparatus and methods, and pertains particularly to TV/radio advertisement and program supplementary information transmitted through other data channels almost simultaneously in time that provide the TV/radio viewer/listener optional assessable additional information regarding broadcasting entities and the like.

BACKGROUND OF THE INVENTION

TV and radio are currently the dominant medium for disseminating entertainment and information to the general public. Substantially all TV/radio programs disseminated by broadcasters are financed by businesses that buy time from television broadcasters to advertise goods and services. Currently, TV/radio advertisers are limited to gross impression advertising, which does not provide any direct information as to effect of their commercials on the viewers.

One other hand, computer technology advanced rapidly, PC, TV and radio receivers will be merged as a virtual necessity in every household. People now spend more time on Internet to get information before they make decision to purchase any thing from stores or companies. But to support the Internet access with high volume demands the companies have to spend a lot of money to build sophisticate web computers and websites as well as high bandwidth communication networks. Also some information which needs to be distributed to general public or big population in timely fashion are still costly to use TV/radio primary channels and are impossible use Internet. So TV/radio broadcasting is extremely efficient for large audiences, sends one stream of data per program to an unlimited number of viewers simultaneously.

It would be highly beneficial to TV/radio advertisers and TV/radio viewers/listeners if the viewers could obtain more information even without searching out through Internet or website to download the needed information. The TV/radio advertisers could

reduce their TV/radio advertising time on primary TV/radio channel to save money and use data channels to send more detail information to the viewers at the same time. That information will assist the viewers to make further decision quickly without going to websites which would dramatically reduce the Internet traffic and time. To the TV/radio viewers/listeners, they can efficiently use their time to learn the more detail information that are available in their receivers already they are interested from TV/radio programs, rather than spend time to watch uninterested advertisement between the main program that they want to watch.

In addition, TV/radio advertisers or companies can distribute their electronic form products quickly though broadcasting data channels directly, massively, and effectively. The multitude of other applications to use broadcasting data channels with TV/radio primary channels together is tremendous.

SUMMARY OF THE INVENTION

The summary of the invention.

DETAILED DESCRITION OF THE INVENTION

The viewer/listener interactive broadcast television system of the present invention includes, as seen in **FIG. 1,** a broadcast system **30** that can broadcast one or more channels of the television/radio programs. Those channels can be described as primary channels **80** and associated channels **90**. Also the broadcast system receives the data from database **40** which contains additional information of the television/radio advertisements or programs. Those data are used to form the data stream in the associated channels **90**. The TV/radio advertisers run their advertisement on the primary channels **80** with its additional information runs on associated channels **90**. Both primary channels **80** and associated channels **90** are broadcast at the same time.

The primary channel in **Fig. 2** includes of advertisement programs **81, 82, 83** and non-advertisement program **84**. And the associated channel in **Fig. 2** includes data files **91, 92, 93**. The advertisement programs **81, 82, 83,** and etc. contain linking codes (LC) which uniquely identifying the associated data file **91, 92, 93** in the associated channel. The associated channels are transmitted in conjunction with primary channels simultaneously. For example, when an advertisement **81** is broadcasted in a primary channel its additional information data file **91** is

also broadcasted in an associated channel at the same time or at almost same time. However, the running time of a data file **91** in the associated channel can be different from the running time of the corresponding advertisement **81** on the primary channel.

On viewer/listener side, a TV/radio receiver **60** with local storage and memory receives the TV/radio signals from both TV/radio primary channels **80** and associated channels **90**. The viewer/listener interacts with the TV/radio receiver through an input device **50**. The display/voice contents are sent to TV display screen or monitor or speaker **70**. The part of local storage is used as storage buffer in the TV/radio receiver **60** and is used as temporary storage for the primary channel **80** and the associated channel **90** data streams. The incoming data are continuously stored in the buffer and the previous buffered data are discarded from the buffer if they have not been selected.

Here is how the TV/radio receiver **60** works. The TV/radio receiver **60** retrieve LC code from inter-image-frame or inter-voice-segment for particular advertisement such as **81** broadcasted in the primary channel **80**. Upon receiving an input signal from the input device **50** as a selection for additional information for the advertisement from the viewer, the LC code of the advertisement **81** is used to search the data file **91**, which is associated with the advertisement. The data file **91** is broadcasted in associated channel **90**, may either have been buffered in receiver's local temporary buffer or being broadcasted. Once the data file **91** has been found, it is abstracted from the storage buffer and stored into other storage area. The viewer/listener may choose to display/listen the additional information in the data file **91** of the selected advertisement or store it for late use.

As is well known in the art, TV broadcasts the video image frame by frame. Between the frames, the space is used to transmit information. The format of digital transmissions allows for such data, and analog TV transmission has blank lines between frames which may also be used for data transmission with certain space and time. Information of captions for hearing handicap is an example.

In another aspect of the invention a signal preparation and transmission apparatus is provided for TV signal and radio signal respectably. The TV signal preparation apparatus is

comprised imaging apparatus for monitoring a scene and preparing a signal data stream for primary broadcast channels; and control circuitry adapted to insert LC codes to the vertical interval between the image frames of the data stream and for associating LC code with an image entity in one or more of the image frames. And for associated channels, the data stream comprises data files that each is associated with a unique LC code. The radio signal preparation apparatus is implemented similar to the TV signal preparation apparatus by replacing imaging frames with voice segments.

In addition to the above, although TV/radio broadcast from a remote location by any one of several methods, either live broadcast or pre-recorded, have been used primarily as examples for described the invention, the invention also encompasses other ways of providing display/voice information to a display/speaker with the integrated ability to respond to LC code. For example, TV/radio programming with associated LC codes may be provided on videotape/voicetape to be used in a VCR/cassette recorder, by signals stored on hard disk drive, or by signals provided on a CD-ROM disk. The invention is broad enough to encompass any means of providing signals for TV/radio display or computer monitor or speaker, with the signals integrated with a LC code for allowing a viewer/listener to browse additional information stored locally rather than to browse internet as a result of interacting with TV/radio event on display/speaker.